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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,370	06/29/2006	Pradeep K. Agarwal	W002.PAT-22	4687
Emery L. Tracy P O Box 1518 Boulder, CO 80306				
EXAMINER MAYEKAR, KISHOR				
ART UNIT 1795				
PAPER NUMBER				
MAIL DATE 05/04/2010				
DELIVERY MODE PAPER				

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/528,370

**Applicant(s)**

AGARWAL ET AL.

**Examiner**

Kishor Mayekar

**Art Unit**

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SI/22)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 06/05

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of invention of Group II, claims 11-18 with the cancelling of claims 1-10 of Group II in the reply filed on 24 March 2010 is acknowledged. Because only elected claims remaining in the present application, the election has been treated as an election without traverse.

### ***Oath/Declaration***

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: Non-initialed and/or non-dated alterations (with respect to the first and fourth inventors) have been made to the oath or declaration. See 37 CFR 1.52(c).

### ***Response to Amendment***

3. The pre-amendment dated 18 March 2005 to add in page 1 of the specification a section of CROSS REFERENCE TO RELATED APPLICATIONS is confusing without the removal of paragraph "The present application ... Recovery of Hydrogen".

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 11-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 11 recites the removal of hydrogen from the reactant (assuming from the reactant feed stream) to form hydrogen cyanide, acrylonitrile and acetonitrile after the recited step of introducing. However, the specification fails to enable as to how the hydrogen cyanide, acrylonitrile and acetonitrile are formed by the removal of hydrogen component ( $H_2$ ) from the reactant, that is in the hydrogen component when there are no cyanide, no acrylonitrile and no acetonitrile components. And the specification fails to enable to the forming of hydrogen cyanide, acrylonitrile and acetonitrile from any reactant feed streams other than from a reactant feed stream containing ammonia, hydrocarbons and either oxygen or air.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 11-14 and 16-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 11, the recitation "**one reactant feed stream containing hydrogen**" in association with the recitation "**removing hydrogen ... acrylonitrile**" is confusing because when the stream containing hydrogen, that is hydrogen molecules, how the recited cyanide and nitriles are formed from the hydrogen molecules. The recitation "**removing hydrogen**" is confusing as whether the recited hydrogen is an atom component of the reactant or else. The recitation "**the reactant**" is confusing or lacks antecedent basis.

Regarding claim 12, the recitation "**constructing the walls of the pulsed corona discharge reactor has walls**" is confusing as to its meaning. The recitations "**the walls**", "**the selective continuous removal**", "**the decomposition**" and "**the reaction**" lack antecedent basis. The recitation "**removal of hydrogen formed**" is confusing as whether the hydrogen here is the same as the hydrogen removing as claimed in claim 11 or another and the hydrogen is a gas or else.

Regarding claim 13, the recitation "**Introducing ... feed stream**" is confusing as whether the introducing is prior to the introducing the reactant stream into the pulsed corona discharge reactor" or else.

Regarding claim 14, the recitation "**the reactant feed streams**" in plural is confusing when the stream in claim 11 is in singular.

Regarding claim 16, the recitation "**the density of ions**" lacks antecedent basis.

Regarding claim 17, the recitation "**products**" is confusing as to its relation with the hydrogen cyanide, acrylonitrile and acetonitrile formed from the removing step of claim 11.

Regarding claim 18, the recitation "**the reactants**" is confusing when claim 11 recite it in singular. The recitation "**the reactants ... ammonla**" is confusing when claim 11 recites the reactant feed stream containing hydrogen ( $H_2$ ).

### **Conclusion**

8. Claims 11-18 are rejected.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kishor Mayekar whose telephone number is (571) 272-1339. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kishor Moyekar/  
Primary Examiner, Art Unit 1795